



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellants : Jorge Tejada et al. Confirmation No.: 4865  
Serial No. : 09/932,297  
Filed : August 17, 2001  
TC/A.U. : 1764  
Examiner : J. Arnold, Jr.

Docket No. : 99-565  
Customer No. : 34704

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

**APPEAL BRIEF**

Dear Sir:

This is an appeal to the Board of Patent Appeals and Interferences from the final rejection of the Examiner dated June 23, 2003 finally rejecting claims 1 – 4, 6, 9 and 10, all of the claims in the instant application.

**REAL PARTY IN INTEREST**

The real party in interest is Intevp, S.A., a Venezuelan corporation.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to Appellants or Appellant's legal representative which will directly affect or be directly affected by or have a bearing on the Board of Appeal's decision in the pending appeal.

12/22/2003 MDANTE1 00000033-09932297

03-FC:1403

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12/22/2003 MDANTE1 00000033 09932297

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### STATUS OF CLAIMS

Claims 1 – 4, 6, 9 and 10, all of the claims pending in the instant application, stand rejected and are on appeal. A true copy of the claims on appeal are attached hereto in Appendix A.

### STATUS OF AMENDMENTS

No amendment was filed subsequent to the final rejection.

### SUMMARY OF THE INVENTION

The present invention is drawn to a hydro conversion catalyst for use in hydro desulfurization of a petroleum feedstock while preserving the octane number of the feedstock. See page 5 line 16 through page 6 line 4. In accordance with the present invention, the catalyst system of the present invention provides excellent hydrodesulfurization activity, excellent hydroconversion activity and yet avoid a decrease in octane values as common in conventional hydrotreating catalysts. In addition, the catalyst system of the present invention is highly tolerant of nitrogen and therefore can be used in a single treatment stage. See the paragraph bridging Pages 7 and 8 of the instant specification. It has been found that the preferred support in the catalyst system of the present invention is zeolite of the type disclosed in U.S. Patent 5,254,327. See page 9 lines 3 through 6. The examples of the present invention particularly starting with example 6 and continuing through example 7, 8 etc. show the advantages of the catalyst of the present invention in terms of hydrodesulfurization, hydrodenitrification while maintaining octane values.

### PRIOR ART RELIED UPON BY THE EXAMINER

| <u>Patent No.</u> | <u>Patentee</u> | <u>Issue Date</u> |
|-------------------|-----------------|-------------------|
| 5,254,327         | Martinez et al. | October 19, 1993  |
| 5,576,256         | Monque et al.   | November 19, 1996 |

### REJECTIONS OF RECORD

Claims 1-4, 6, 9 and 10 are rejected under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. Monque 5,576,246 in view of Martinez et al 5,254,327.

### ISSUE

Whether the Monque et al. and Martinez et al. references have been properly combined and assuming that the references have been properly combined, do the references collectively teach or suggest the catalyst claimed in claims 1-4, 6, 9 and 10.

### GROUPING OF CLAIMS

Claims 1-4, 6, 9 and 10 are each separately patentable and reasons why each of these claims are separately patentable are set forth in the Arguments section of this Brief.

### ARGUMENT

The Examiner in his final rejection in response to Applicants' arguments sets forth the following:

“Applicant’s arguments have been fully considered but are deemed unpersuasive. Applicant does not particularly point out in his response the advantages of the instant application over the Monque reference. Furthermore, applicant fails to indicate how

Examiner's combination of references amount to nothing more than hindsight reasoning. Finally, the Examiner has provided proper motivation for each assertion of obviousness in the present application. Therefore, Examiner maintains that the present disclosure is obvious in light of the teachings of Monque and Martinez."

Applicant traverses both these statements.

With regarding to the Examiner's position that Applicants did not point out the advantages obtained over the Monque reference the following should be noted. As clearly set forth in the remarks of Applicants' amendment filed April 30, 2003, the examples in the instant application clearly set forth the advantages obtained with regard to the catalyst of the present invention as compared to the Monque '256 patent. As clearly pointed out in Applicants' remarks, the instant specification contains numerous examples starting with Example 6 on Page 26 where the catalyst of the present invention is compared to the catalyst of the Monque et al. reference and it is clearly demonstrated that the catalyst of the present invention provides excellent hydrodesulfurization activity and a high tolerance to the presence of nitrogen and the feedstock being treated while providing excellent HDN and HDO activity. This activity is directly compared to the Monque et al. '256 patent which is found to be wanting. In addition, the catalyst of the present invention does not have an adverse impact on octane values. This is again clearly demonstrated by the foregoing examples. Thus, the examiner's conclusion that Applicants have not provided evidence of advantages is totally without merit.

With regard to the Examiner's statement that he has provided proper motivational basis for his obviousness rejection, again Appellants traverse this statement.

The Examiner in his final rejection takes the following shotgun approach.

“It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a zeolite having an Si/Al ratio of between about 1 and about 20 because the use of the zeolite as a component of the catalyst is disclosed by both Monque and Martinez and it would be appropriate to use a zeolite with an Si/Al ratio appropriate for catalytic activity. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an ST-5 zeolite because ST-5 is one type of MFI zeolite and would be expected to have similar catalytic properties. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a catalyst wherein the support comprises between about 10 and about 90% wt of said zeolite and between about 90 and about 10% wt of said alumina because the Monque reference discloses a support with zeolitic and alumina composition and it would be appropriate to use a support with said composition arranged in any ratio effective for catalytic activity. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a catalyst wherein said metal active phase contains at least about 1% (wt) of said first metal, at least about 0.5% (wt) of said second metal, and at least about 0.2% (wt) of said third element because the Monque reference discloses the use of a metal active phase and it would be appropriate to use the component metals in any ration effective for catalytic activity.”

The Examiner's conclusions as set forth above have no basis in the teachings of the prior art references and those conclusions are only drawn as a result of consideration of Applicants instant disclosure. The Examiner has done nothing but made a hindsight reconstruction based on Applicants' disclosure and has dismissed the evidence supplied in the examples of superior results obtained by Applicants' invention. It should be noted that both of the references cited by the examiner are referred to in the disclosure of the case on appeal. The Monque reference is compared to the catalyst of the present invention as noted above. Both the Martinez reference and the Monque reference are owned by the Venezuelan Research and Development company Intevep, S.A. as is the instant application. Many of the inventors of the instant application are the inventors in the Martinez reference. The Martinez reference was known to Monque at the time of his

filing of the '256 patent application. Yet, the invention claimed in the instant application was not at all suggested by the Monque '256 patent. Thus, researchers in the same R&D department having full knowledge of these prior art references and teachings did not reach the conclusions of the invention as claimed in the instant application as has the examiner in his final rejection. The foregoing belies the Examiner's statement of proper motivation for combining the references.

Accordingly, it is submitted that superior advantages obtained by the catalyst of the present invention overcomes the examiner's prima facie case of obviousness. Furthermore, it is urged that the examiner's combination of references amounts to a hindsight reconstruction and is improper under 35 U.S.C. 103 as determined by the case law.

#### CONCLUSION

The Examiner's rejection should be reversed.

APPEAL BRIEF FEE

A check in the amount of \$730.00 is enclosed herewith to cover the cost of the Appeal Brief, Request for Oral Hearing and One Month Extension of Time fees. Should the Commissioner determine that an additional fee is due, he is hereby authorized to charge said fee to Deposit Account No. 02-0184.

Respectfully submitted

Jorge Tejada et al.

By

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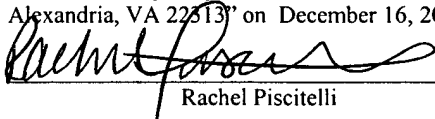
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Rachel Piscitelli

## APPENDIX A

1. A hydroconversion catalyst for hydrodesulfurizing feedstock while preserving octane number of said feedstock, comprising:

a support comprising a mixture of zeolite and alumina, wherein said support comprises between about 10 and about 90% wt of said zeolite and between about 90 and about 10% wt of said alumina, said zeolite is MFI zeolite having an Si/Al ratio of between about 1 and about 20;

a metal active phase on said support and comprising a first metal selected from group 6 of the periodic table of elements, a second metal selected from the group consisting of group 8, group 9 and group 10 of the period table of elements, and a third element selected from group 15 of the periodic table of elements, wherein said metal active phase contains at least about 1% (wt) of said first metal, at least about 0.5% (wt) of said second metal, and at least about 0.2 % (wt) of said third element.

2. The catalyst of claim 1, wherein said first metal is molybdenum.

3. The catalyst of claim 1, wherein said second metal is selected from the group consisting of nickel, cobalt and mixtures thereof.

4. The catalyst of claim 1, wherein said third element is phosphorus.

6. The catalyst of claim 5, wherein said MFI zeolite is ST-5 zeolite.



9. The catalyst of claim 1, wherein said Si/Al ratio is less than about 15.

10. The catalyst of claim 1, wherein said Si/Al ratio is less than about 12.

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Respectfully submitted

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By \_\_\_\_\_

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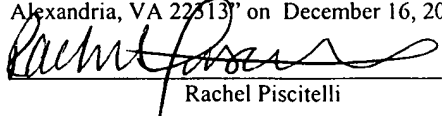
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